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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,647

10/17/2003

Louis L. Nagy

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03/02/2005

DELPHI TECHNOLOGIES, INC.

M/C 480-410-202

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EXAMINER

DEB, ANJAN K

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,647	NAGY, LOUIS L.	
	Examiner	Art Unit	
	Anjan K. Deb	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,788,072 B2.

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Re claims 1, 3, 5, 6 US Patent No. 6,788,072 B2 recites the claimed limitations including measuring the change in dielectric constant (relative permittivity)(see claim 15) using variable frequency microwave source for generating first and second waveforms in a first and second frequency band (variable frequency)(claim 11) respectively (see claim 1) to calculate soot content in diesel oil.

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Re claims 2, 4, 10, 11, 15 US Patent No. 6,788,072 B2, recites all of the claimed limitations except that first frequency band is within sub-AM frequency band but would have been obvious to obtain measurements in a broad range of frequencies (sub-AM to microwave) so as to accurately identify percentage content of different types of particles in the oil.

Re claims 8,9 US Patent No. 6,788,072 B2 recites all of the claimed limitations including processor (see claim 18) and variable frequency oscillator (variable frequency microwave source) for calculating soot content.

Re claims 12,13, recites the claimed limitations including probe immersed in oil and detector (claim 15), for detecting null voltage associated with standing wave and processor for calculating percentage of soot.

Re claim 14 US Patent No. 6,788,072 B2 recites the claimed limitations except means for measuring capacitance of the oil associated with first frequency, but would have been obvious since US Patent No. 6,788,072 B2 (claim 11,15) claimed measuring a change in relative permittivity of oil by selectively varying the frequency of microwave source, and it is known to one of ordinary skill in the art that the capacitance is a function of the relative permittivity of the medium (oil).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaisford (US 5,103,181).

Re claims 1, 8, 9 Gaisford discloses measuring dielectric constant (dielectric properties) of oil by sweeping the sample within a range of frequencies including microwave (GHz) (column 8, lines 26-48) and RF frequency band (column 7 lines 35-37) to determine composition of material including that of oil.

Gaisford did not expressly disclose measuring calculating the soot content of oil, but would have been obvious since Giasford disclosed detecting immiscible components and measuring oil quality.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Gaisford by incorporating the teaching of detecting immiscible components in oil stream as disclosed by of Gaisford for measuring soot (composition of material in oil).

Re claims 2,4,10 Gaisford discloses sub-AM band and KHz frequencies (RF).

Re claim 3, 5 Gaisford discloses microwave (GHz) band of frequencies (RF).

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Re claims 6,11 Gaisford discloses measuring impedance which includes both resistive and reactive (capacitance) (inherent) components.

Re claim 7, Gaisford did not claim transmitting soot content data for display within a vehicle, but would have been obvious as required for the intended use of the claimed apparatus.

Conclusion

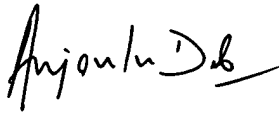
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McAdoo (US 5754055) teaches determining lubricating fluid (oil) condition by measuring the dielectric constant using microwaves.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lefkowitz Edwards can be reached at 571-272-2180.



Anjan K. Deb

Patent Examiner

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2/28/05

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